PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : G02B 5/30 — A1

(11) International Publication Number: WO 97/32224

(43) International Publication Date: 4 September 1997 (04.09.97)

(21) International Application Number: PCT/US97/00981

(22) International Filing Date: 17 January 1997 (17.01.97)

(30) Priority Data:
08/610,092 29 February 1996 (29.02.96) US

(71) Applicant: MINNESOTA MINING AND MANUFACTURING COMPANY [US/US]; 3M Center, P.O. Box 33427, Saint Paul, MN 55133-3427 (US).

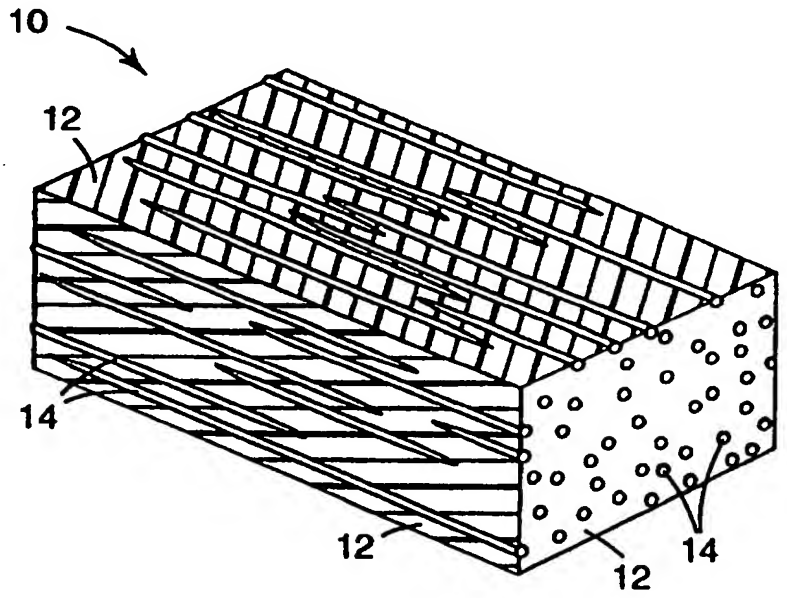
(72) Inventors: OUDERKIRK, Andrew, J.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). CARLSON, Lockwood, W.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). KOTZ, Arthur, L.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). NEVITT, Timothy, J.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). STOVER, Carl, A.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). WEBER, Michael, F.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). ALLEN, Richard, C.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). MAJUMDAR, Biswaroop; P.O. Box 33427, Saint Paul, MN 55133-3427 (US).

(74) Agents: FORTKORT, John, A. et al.; Minnesota Mining and Manufacturing Company, Office of Intellectual Property Counsel, P.O. Box 33427, Saint Paul, MN 55133-3427 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: AN OPTICAL FILM



(57) Abstract

An optical film is provided which comprises a disperse phase of polymeric particles disposed within a continuous birefringent matrix. The film is oriented, typically by stretching, in one or more directions. The size and shape of the disperse phase particles, the volume fraction of the disperse phase, the film thickness, and the amount of orientation are chosen to attain a desired degree of diffuse reflection and total transmission of electromagnetic radiation of a desired wavelength in the resulting film.